

ATTACHMENT 2

APPENDIX 2

UNEXPECTED OPERATIONS

During the conduct of a Rapid Response System mission, items or material may be encountered that do not appear to be components of the chemical agent identification set (CAIS). Such items or material could include glass bottles or ampules of different configurations than expected; these items may be observed during the unpacking of a pig or overpack. In the event such items are encountered, the following actions will be accomplished. The items or material will be (1) photographed, and (2) non-intrusive identification attempted by use of the Raman spectrophotometer identification system. The quantity of the item and its identification will determine which of the following courses of action will be pursued. The item will be either (3) handled like other CAIS items (if positively identified), which means it will be either treated or repackaged for further treatment offsite, or if the item cannot be identified by the Raman spectrophotometer, (4) a Field Procedure Team will be formed, convened, and will determine the appropriate method of treatment. The unexpected item will usually be returned to the interim holding facility or be retained in the glovebox pending review by the Field Procedure Team and approval of the team's recommendation. This will avoid delaying other RRS operations. Prior to the formation of the Field Procedure Team, the Program Manager for Chemical Disposal (PMCD) will be notified before any actions take place.

Photography. The unexpected item(s) will be immediately photographed. RRS on-hand equipment will include cameras that can produce instant prints. This capability is normally available in the vicinity of RRS operations. Photographs of the item or material will be a permanent part of the RRS operations log and final report of operations. Additional photographs will accompany the item (or sample of the item) if sent to a laboratory for further identification.

Identification. Any items in glass containers will be processed through the Raman spectrophotometer identification system to non-intrusively obtain a Raman spectrum of the contents. Identification will be attempted from this spectrum by comparing it to other known Raman spectra. Items that do not allow the use of the spectrophotometer identification system will be processed according to paragraph 3.10.4, Requirement for the Field Procedure Team.

Routine Operations. If the item contains a known CAIS chemical agent or industrial chemical and if the quantity can be processed in routine RRS operations, the item will be processed in the RRS. No changes to routine RRS operations and no special notification requirements will be required.

Requirement for the Field Procedure Team. If the item is not readily identifiable or the quantity of the item is larger than routinely handled by the RRS, the following actions will be taken:

- a. *Notification.* The RRS system operator will notify PMCD within 3 hours of the identification of an unexpected item that may require the formation of the Field Procedure Team. PMCD will provide the approval necessary to notify the Utah Division of Solid and Hazardous Waste (UDSHW) of the unexpected item.
- b. *Formation of the Field Procedure Team.* A Field Procedure Team will be convened. This team will consist of:
 - (1) RRS Supervisor;
 - (2) Host Facility Safety Representative;
 - (3) Host Facility Environmental Office Representative;
 - (4) PMCD project team member; and
 - (5) UDSHW will be invited to participate at their option.
- c. *Development and Approval of the Unexpected Operation.* The team will develop a safe field procedure for disposing of the item. The recommended procedure will be sent to PMCD and UDSHW for approval by the quickest means possible. A facsimile machine is the fastest method where great distances are involved. Under no circumstance will the item or material be processed until approval to do so is received from PMCD and from UDSHW. Approval will normally be provided in writing and can also be sent by a facsimile machine to the RRS Supervisor at the RRS location.
- d. *Overpacking the Item or Material.* If the formation of a team and securing of approval is expected to take a long time, the RRS Supervisor will normally have the item repackaged (overpack if necessary) for temporary storage. This will allow the RRS to resume its mission of routine operations. The unexpected item, once overpacked, may then be removed from the RRS and placed in the interim holding facility to await approval of the unexpected operation. The unexpected operation may occur only when the approval is received.

Examples of Unexpected Operations. While it is impossible to provide a list of all the possible occurrences that the RRS may encounter, the following examples are given as reference. The Field Procedure Team will develop the final recommendation for the unexpected operation. This team will develop the recommended operation from all known facts surrounding the item. The RRS Supervisor will be able to judge if the final recommendation of the Field Procedure Team will exceed the capabilities of the RRS.

- a. *Larger Quantity of a CAIS Materiel.* If the item is larger than a normal CAIS component and contains an identifiable chemical agent or industrial chemical

normally contained in CAIS, the recommended operation may include:

- (1) A separate and different packaging for an identified industrial chemical for shipment to an approved treatment, storage, and disposal facility.
 - (2) Incremental treatment for an identified chemical agent [mustard (H), nitrogen mustard (HN), or lewisite (L)]. If a 300-milliliter (mL) container of H is the item, the operation could be as simple as safely dividing the amount into quantities that the RRS would routinely handle (approximately 100 mL). With this accomplished, the smaller quantities could be incrementally treated by the RRS, with the resulting waste placed with the routine waste stream.
- b. *Unidentified Items.* If the item contains a chemical that is different from what is expected in CAIS and is not identifiable (but is not identified as a chemical surety materiel), the recommended operation may include:
- (1) Safely overpacking a small sample of the item and shipping to a laboratory for analysis.
 - (2) Overpacking the remaining unexpected item and returning it to storage and possible transportation to another facility.
 - (3) Items identified as or suspected to be chemical surety materiel should follow the procedures in paragraphs (1) and (2) above with the item or sample being sent to the Edgewood Research, Development and Engineering Center laboratory at the Edgewood Area, Aberdeen Proving Ground, Maryland for proper identification and disposal. This movement would be escorted by the U.S. Army Technical Escort Unit.
- c. *Identifiable Non-CAIS Items.* If the item contains a chemical that is different from what is expected in CAIS and is tentatively identified, the recommendation may be the same as if the item were unidentifiable (see paragraph b. above). The non-intrusively identified chemical, even if nonhazardous, would most likely be repackaged and sent to a laboratory for positive identification and final disposal. The known waste streams of the RRS should not be mixed with other compounds and chemicals, such as ethylene glycol or methylene bromide. Repackaging in the RRS is possible, but a different treatment process must not be considered an option.